CLAIMS

What is claimed is:

I. A method for determining the spreading factor in a code division multiple access communication system comprising:

(a) despreading with a plurality of the possible spreading factor codes;

(b) taking the absolute values of said despreading results of step (a); and

(c) making a spreading factor decision from said absolute values of step (b).

2. The method of claim 1, wherein:

(a) said despreading includes performing maximal-ratio-combining of despread multipaths.

3. The method of claim 1, wherein:

(a) said absolute values are weighted with a signal-to-noise ration estimate.

4. The method of any of claims 1, 2, and 3, wherein:

(a) said absolute values for a spreading factor are accumulated.

5. The method of claim 1, wherein:

(a) said making a decision of step (c) includes comparing the ratios said absolute values for differing spreading factors.

6. . The method of claim 1, wherein:

(a) said making a decision of step (c) includes comparing weighted linear combinations of ratios said absolute values for differing spreading factors.

7. A method of despreading, comprising:

(a) despreading with a plurality of the possible spreading factor codes;

(b) taking the absolute values of said despreading results of step (a);

(c) making a spreading factor decision from said absolute values of step (b);

(d) when said decision of step (c) is a first or second spreading factor, then despreading with both said first and second spreading factors, and when said decision of step (c) is a third spreading factor, then despreading with said third spreading factor.

8. The method of claim 7, wherein:

(a) said despreading includes performing maximal-ratio-combining of despread multipaths.

9. The method of any of claims 7 and 8, wherein:

(a) said absolute values for a spreading factor are accumulated.

10. A method of despreading, comprising:

(a) despreading with a plurality of the possible spreading factor codes;

(b) taking the absolute values of said despreading results of step (a);

(c) making a spreading factor decision from said absolute values of step (b);

(d) when said decision of step (c) is a first spreading factor, then despreading with spreading factors larger than said first spreading factor.

11. The method of claim 10, wherein:

(a) said despreading includes performing maximal-ratio-combining of despread multipaths.

12. The method of any of claims 11 and 12, wherein:

(a) said absolute values for a spreading factor are accumulated.

13. A method of despreading, comprising:

(a) despreading with a plurality of the possible spreading factor codes;

(b) taking the absolute values of said despreading results of step (a);

(c) making a spreading factor decision from said absolute values of step (b) wherein the absolute values are taken over differing time intervals for differing spreading factors.

14. The method of claim 13, wherein:

(a) said despreading includes performing maximal-ratio-combining of despread multipaths.

15. The method of any of claims 13 and 14, wherein:

(a) said absolute values for a spreading factor are accumulated.

16. A code division multiple access communication system, comprising:

(a) an antenna;

(b) a demodulator coupled to said antenna;

(c) a processor coupled to said demodulator and programmed to: (i) despread with a plurality of the possible spreading factor codes, (ii) take the absolute values of said despread results of step (i), and (iii) make a spreading factor decision from said absolute values of step (ii); and

(d) an output coupled to said processor to output results of said programmed despreading with the spreading factor according to the decision of step (iii).